

Cell

Notice of Allowability	Application No.	Applicant(s)	
	10/735,167	CARDONE ET AL.	
	Examiner	Art Unit	
	Khanh B. Duong	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on November 22, 2005.
2. ☒ The allowed claim(s) is/are 1,2,4-6,22,24,25 and 27.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
|---|---|

DETAILED ACTION

Response to Amendment

This Office Action is in response to the amendment filed on November 22, 2005.

Accordingly, claims 3, 23 and 26 were canceled, and claims 1, 22 and 25 were amended.

Claims 18-21 remain withdrawn from consideration as being directed to a non-elected invention.

Currently, claims 1, 2, 4-6, 22, 24, 25 and 27 remain pending.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the Claims:

Please cancel claims 18-21.

Allowable Subject Matter

Claims 1, 2, 4-6, 22, 24, 25 and 27 are allowed.

The following is an examiner's statement of reasons for allowance: none of the prior art of record, taken alone or in combination, fairly shows or suggests all the limitations as claimed.

Re claim 1, none of the prior art of record discloses the following limitations in combination with the rest of the limitations in the claim: said first epitaxial layer having a thickness in the range from about 0.5 nm to about 2 nm, said first epitaxial layer having a

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concentration of dopant greater than 5×10^{19} atoms/cc, said dopant selected from the group consisting of phosphorus and arsenic..

Re claim 22, none of the prior art of record discloses the following limitations in combination with the rest of the limitations in the claim: a first layer of Ge from about 0.5 nm to about 2 nm in thickness and doped with a dopant selected from the group consisting of phosphorus and arsenic at a dopant concentration of greater than 5×10^{19} atoms/cc, wherein said first layer of Ge is positioned below said channel and extends through said source and drain regions.

Re claim 25, none of the prior art of record discloses the following limitations in combination with the rest of the limitations in the claim: a first layer of Ge from about 0.5 nm to about 2 nm in thickness and doped with a dopant selected from the group consisting of phosphorus and arsenic at a dopant concentration of greater than 5×10^{19} atoms/cc, wherein said first layer of Ge is formed on said substrate.

Re claim 27, none of the prior art of record discloses the following limitations in combination with the rest of the limitations in the claim: a first layer of Ge from about 0.5 nm to about 2 nm in thickness and doped with a dopant selected from the group consisting of phosphorus and arsenic selectively positioned over exposed portions of said source and drain regions, and a second layer, and a second layer of semiconductor material selected from the group consisting of Si and SiGe doped with a dopant selected from the group consisting of phosphorus and arsenic epitaxially formed over said first layer to form raised source and drain regions.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

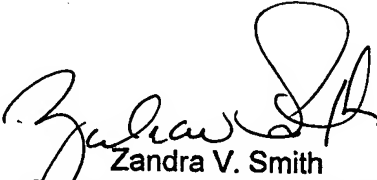
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh B. Duong whose telephone number is (571) 272-1836. The examiner can normally be reached on 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith, can be reached on (571) 272-2429. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


KBD


Zandra V. Smith
Supervisory Patent Examiner
27 Feb 2015